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HEALTH

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QUARANTINE

THE discovery of bacteriological origin of diseases is one of the greatest achievements of modern science, for it has started a revolution in the system of ideas about health and ill-health, about hygiene and prevention and about social behaviour of man towards man. It will be a considerable time before the ideas can be shaped into any organised form of social practice. The reason why it takes time is not that bacteria are believed to be a mythological invention but recognition of the full implications of the existence of an enemy, the bacteria, eternally engaged in attacking living bodies, calls for a total revolution in the present modes of living. The chief danger from bacteria comes in the form of communicable diseases. The germs manage themselves to be carried from man to man and spread diseases. There are various ways of the germs passing from the diseased to the healthy like water, air, food, social contact, droplets, sputum, etc. Now the fundamental principle of future social organisation should be the reduction of the communicability of disease germs to the minimum. And the social structure based on this principle should be as permanent as the bacterial menace itself which is as permanent as life itself, because a good number of bacteria is not only harmless but positively necessary for the health of living bodies. Thus as we are always in need of beneficial bacteria, so must we be on guard against the inimical ones.

But such a permanent organisation is not a thing to be established in a short period. for the immensity of change it involves necessarily takes time. For the present we find a temporary specimen of ideal in the form of quarantine. This was originally practised by Europeans when ships from abroad arrived at ports. The ships were kept at a distance from the shore for forty days (for which reason it is called quarantine) in order to see if the boarders and the crew carried any contagious disease. The method has since then become more and more popular till it has now

become a rule in all countries in hospitals and prisons. Every new convict, for instance, is quarantined outside the main block of prison for a week before being admitted inside.

The notable contagious diseases known to Europe before Louis Pasteur were mainly cholera and plague, and this explains why the attention of all the States of Europe was concentrated on how to prevent the introduction of these diseases from the ships travelling long distances from other countries. Since 1850 many international conferences were held in Europe mainly to consider what precautionary measures should be taken against cholera. The majority of these conferences recommended quarantine measures. These measures, roughly speaking, include detention of ships at a distance from the shore for at least 10 days, disinfecting materials believed liable to be contaminated, isolation of the sick, observation of the healthy and so on. Even now many Powers including France and Spain observe these sanitary conventions. Great Britain, however, discarded this method but left it to be looked after by the local authorities. of the ports concerned. The British, perhaps, believe that the quarantine measures were artificial and enforced seclusion, which should therefore be substituted by natural seclusion, and that the habits of the people are more responsible for the contraction of disease than the lack of legislation. Even the established habits of people should, if they are likely to make way for disease, undergo a fundamental change. This holds good in the case of all infectious diseases. We do not know whether any fundamental changes were introduced in the habits of people of that country since 1850. But we know that tuberculosis is as well on in that country as anywhere else in the world.

In India from times immemorial the principle of quarantine is an article of faith, and the social structure is very clearly based on it. Why it is hereditary in nature and its religious implications are out of place to be dealt with here as they form separate subjects altogether. This much-abused system, the hereditary quarantine system of India, has a great chance of vindicating its validity if viewed from the way in which the various sections of people are quarantined from one another only physically but kept together mentally and culturally by various other institutions. All the chief mediums of disease germs are prohibited from usage between one section of people and another, to be on the safe side, permanently and hereditarily. All the rules of this quarantine system are conceived to make life on earth a great success.

War Industry Assistance by Britain's Deaf and Dumb

Deaf and dumb people in Britain are now being taken into war work.

One group of them is working steadily in the shot-blasting sector of a Midlands factory producing shells. Here the din is so terrific that few of the ordinary workers can stand it. The deaf and dumb, unaware of the inferno of noise around them, placidly concentrate upon the finishing and polishing of the insides of shell cases.

The deaf and dumb are also found to be specially useful for war work demanding a keen sense of touch or sight, and in most cases their sight is exceptional. "The very keen pride," the National Institute for the deaf points out, "of such workers as these girls in finding that their help is needed by their country in its hour of danger can well be imagined."—*Safety News.*

CURATIVE VALUE OF PHYSICAL EXERCISE

By T. V. NARAIN,
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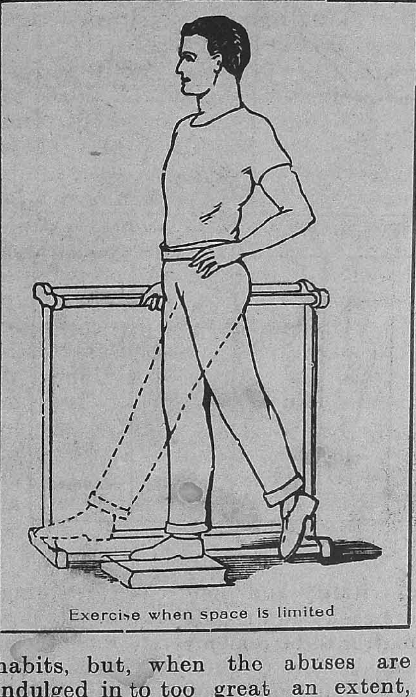
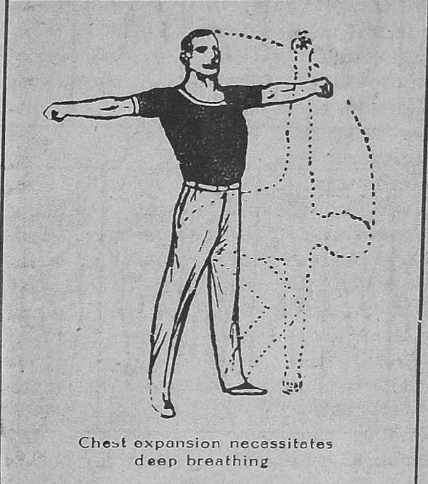
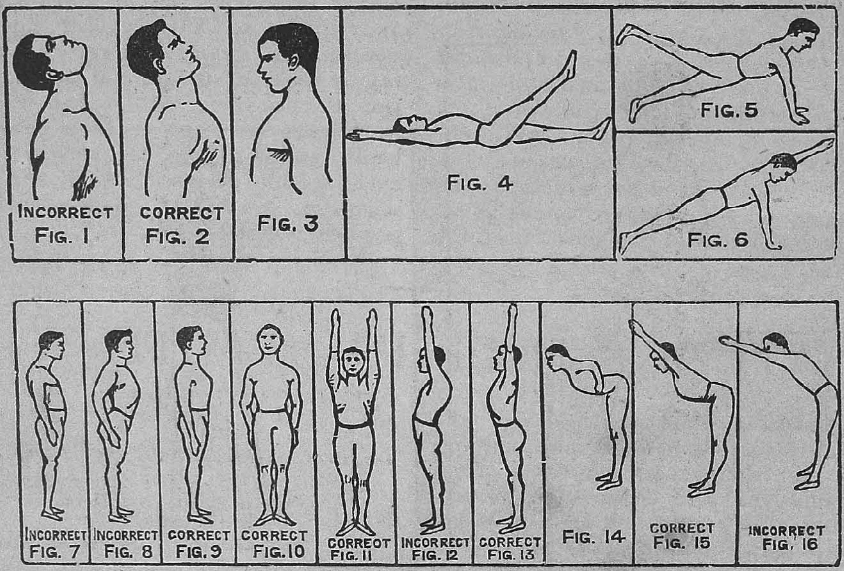
THE main reasons for many of the modern ailments like constipation, indigestion, gastric troubles, sleeplessness, nervousness, general weakness, etc., are hurry, worry, fear and habits in life. By nature, the physical body is able to take up a reasonable amount of abuses in the form of habits, but, when the abuses are indulged in to too great an extent, the physical system gets upset and the human mechanism rebels, resulting in ailments. Therefore, the agents for many of the ailments are our own actions and their reactions and hence one should very well think over and realize the causes and so correct such irregularities in life as to get an immediate relief. A hurried eating is enough to upset the stomach and create constipation, a worried life to shatter the nervous system, a fear to discourage the mental confidence, and a habit like excessive smoking, drinking or any other indulgence to create many more complicated troubles in the system. Surely a system of over-exercise will retard the progress. Perhaps in youth, our youthfulness is able to withstand a certain amount of our overdoings, but the after-effect in the later stages is bad. Therefore, moderation in every walk of life must be the watchword. When the vital resisting power in the body is lowered, various complaints take an upper hand in their actions resulting in ailments. Then the question is how to create more resisting power in the body. After all, medicines are medicines only, to suppress the disease in


Exercise when space is limited


Chest expansion necessitates deep breathing

the body itself. They are not removing the root cause of the disease. Minor complaints, other than those arising from bacterial causes, are due to irregularities in life. A system of physical exercise first forms in any body a correct system in every walk of life. For, burning the candle at both ends is not good; a respect for one's own physical body is slowly generated; thus, many of the irregularities in one's own daily routine life are corrected. Then, together with a systematic exercise, good nourishment, timely sleep, clean habits and mental equilibrium one is able to improve the body on the whole.



Exercises that develop the chest

The curative value of physical exercises has far-reaching effects upon the functions of the various organs and organic systems of the body. Some of the cures which have been effected point to potentialities which deserve the serious attention of the ailing public and those who want to keep healthy and strong. Particularly noticeable are the effects of curative exercises in cases of the ordinary defects of nutrition, whether such defects be caused by ailments affecting the digestive, nervous, circulatory or excretory systems. As a rule, no sooner is the course of exercises prescribed to meet the special case begun, than alleviation is felt, and a cure is generally certain if the exercise is persisted in. Such common ailments as indigestion, constipation, stomach disorder, headache, dyspepsia, obesity, rheumatism, loss of vitality and defective breathing are easily and rapidly cured. It is a matter to be remembered that these ailments are frequently the primary causes of more complex and dangerous complaints and how valuable a curative exercise will be and how it will cut off the root causes of diseases by squeezing out all bad matters from the body. In nervous affections, again its tonic effects are most marked, and for skeletal deformities such as spinal curvature or other deviation from the normal position of the skeleton, physical exercises are very well recogniz-

ed as the most natural and effective agents for cure.

But apart from its special effects in the case of particular ailments, there is always a notable improvement in the general health, strength and stamina. This is due to improved circulation of the blood in the veins and the lymph in the lymphatics; and in the second place to a more energetic metabolism of the tissues, whereby their health is improved and an undue accumulation of reserve material prevented. This energetic breaking down of the tissues and their continual replenishment by means of an acceleration of the flow of oxygenated and nutritive blood, combined with the more rapid removal of their waste products, must be of special value when the tissues are in any way diseased; while any curative exercise which assists the flow of lymph and venous blood, must necessarily be most useful in the treatment of the obscurer diseases of which inflammation of the veins and lymphatics are symptoms. The effect of regular muscular exercise is to expand the lungs, to increase the amount of oxygen taken in and the carbon dioxide breathed out; the sweat is increased and so exercise helps to get rid of waste matters from the body. The heart is strengthened, the blood is more ærated, the muscles grow larger, harder, stronger and more active, the appetite and digestive powers increase, the body is kept warm, and the brain is more active and bright as a result of the general health becoming so good. Therefore, it is my earnest desire to call the attention of the ailing public and those who want to improve their general health and strength to the possible cure of such diseases by means of scientific, systematic and curative physical exercises.

NATURE'S HELP IN HEALTH

By

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Beautiful Surroundings.—In the country the sick find many things to call their attention away from themselves and sufferings. Everywhere they can look upon and enjoy the beautiful things of nature—the flowers, the fields, the fruit trees laden with their rich treasure, the forest trees casting their grateful shade and the hills and valleys with their varied verdure and many forms of life.

And not only are they entertained by these surroundings, but at the same time they learn most precious spiritual lessons. Surrounded by the wonderful works of God, their minds are lifted from the things that are seen to the things that are unseen. The beauty of nature leads them to think of the matchless charm of the earth made new, where there will be nothing to mar the loveliness, nothing to taint or destroy, nothing to cause disease or death.

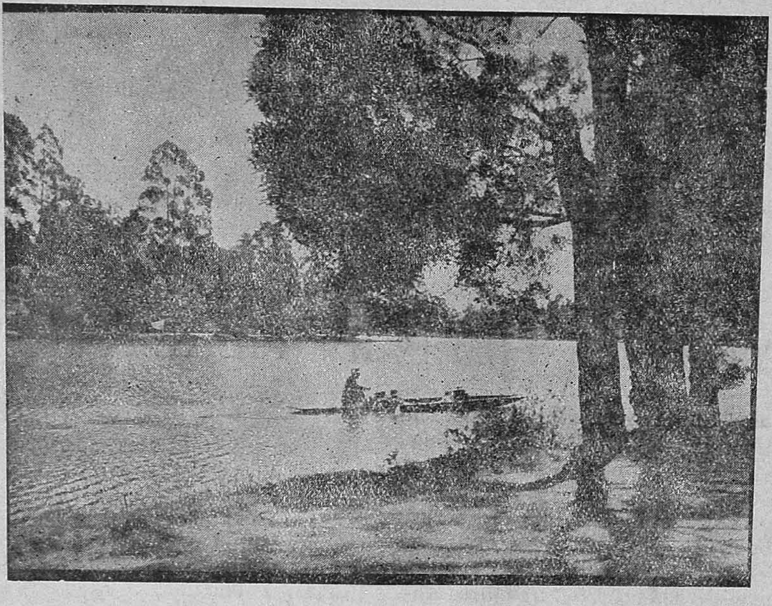
Outdoor life is the only medicine that many invalids need. Its influence is powerful to heal sickness caused by fashionable life, a life that weakens and destroys the physical, mental, and spiritual powers. How gratifying to weary invalids accustomed to city life, the glare of many lights, and the noise of the streets, are the quiet and freedom of the country! How eagerly do they turn to the scenes of nature! How glad would they be for the advantages of a sanatorium in the country, where they could sit

in the open air, rejoice in the sunshine, and breathe the fragrance of tree and flower! There are life-giving properties in the balsam of the pine, in the fragrance of the cedar and the fir. And there are other trees that are health-promoting.

For the chronic invalid nothing so tends to restore health and happiness as living amid attractive country surroundings. Here the most helpless ones can be left sitting or lying in the sunshine or in the shade of the trees. They have only to lift their eyes and they see above them the beautiful foliage. They wonder that they have never before noticed how gracefully the boughs bend, forming a living canopy over them, giving them just the shade they need. A sweet sense of restfulness and refreshing comes over them as they listen to the murmuring breeze. The drooping spirit revives. The waning strength is replenished. Unconsciously the mind becomes peaceful, the fevered pulse more calm and regular.

Natural Defensive Mechanism of the Body.—At every possible portal of entry of disease germs into the body, there stands a sentinel on guard, ready to dispute the intruders' right to advance. In fact, there is not a disease germ known to science which can pass the barrier of a healthy skin. Remarkable in structure and beautiful in design, the skin forms a protective wall, six strata of living cells in thickness, which separates the life current, the blood stream, and the delicate tissues and organs within the body from a host of dangers without. The skin not only covers the outer surface of the body but modified in form it lines the body cavities, as the nose, the mouth, the stomach, the intestine, etc. This internal skin secretes various fluids or juices, which are known to be highly antiseptic and destructive to germ life.

In the nose the secretion not only keeps the surface moist, causing lodgment of dust particles, which



Outdoor life is the only medicine that many invalids need.

are the aeroplanes upon which disease germs ride, but also exercises a bactericidal or germ-destroying power. The nose being located just above the main gateway to the body, not only performs the protective service of warming, moistening, and filtering the air breathed and detecting any poisonous gases, but also the important protective function as a guard over the mouth.

Contaminated water and infected milk or other foods are frequently the source of disease. The gastric juice secreted by a healthy stomach contains a free mineral acid. This hydrochloric acid is a potent disinfectant. Even water, which requires no digestion, stimulates or induces a copious flow of this acid. This wise provision of Nature must be for the purpose of disinfecting the water which is such a frequent carrier of disease.

Should an invading army of micro-organisms succeed in breaking through the first line of defence, *i.e.*, the external and internal skin, with their secretions, it would encounter a more formidable resistance at the second line. This second defensive mechanism consists of a double line of glandular forts interposed between the skin and the blood stream. These little bodies numbering many hundreds are the lymph nodes, or lymph glands. Because of similar structure and usage, the tonsil belongs to this line. These lymph glands consist chiefly of white blood cells; through them the lymph must circulate and its passage to the blood stream; within them many white blood cells are formed and the lymph is purified. They assist in destroying disease germs and in neutralizing their toxins.

In spite of all these natural defences, some germs enter the system. But we are equipped with our own forces in our blood to render these germs harmless to us except when for some reason our resistance is lowered and we let them get temporarily ahead of our fighting forces.

The white blood-cells in blood possess the power of moving about in blood-stream and are often described as the scavengers of the body as they are able to eat up and destroy invading foreign body, such as germs. An invasion of germs into the blood causes a great increase in the number of those white blood cells. They make their way to the point of invasion and wage war on the intruders. In the vast majority of cases, the white blood cells prevail upon the invading germs and destroy them. The dead bodies of these germs are devoured by the white blood cells. It is by this means that the body is protected from infection by germs.

The germs entering into our body produce their harmful effect by manufacturing toxins but the blood counteracts this by producing an antidote or antibody. It is the formation of such substances which enables a person to recover from an attack of a certain disease and it is their persistence in the blood in some quantity which gives immunity against further attacks of the same disease.

The blood possesses another defensive power against harmful germs. In the fluid part of the blood, there are substances called bacteriolysins which are hostile to germs. Also invasion by germs stimulates the agglutinating power of the blood by which the invading germs are rendered immobile and are dumped together so that their activities are impeded.

Thus we see, good health is not a matter of chance or accident, it is essentially a question of blood. It is the blood that daily builds and repairs the body tissues and organs. It is by the blood that food materials and oxygen are distributed to every tiny cell, and also by the same fluid stream the carbon dioxide gas is carried to the lungs; and organic poisons,

as urea and uric acid, are transported to the liver, the kidneys, and the skin for excretion and removal from the body.

Nature's Warning. — As clouds appear in the sky before rain, some symptoms appear in us before a disease attacks us. Symptoms such as malaise, headache, fatigue, insomnia, anorexia, pain, nervousness, indigestion, constipation, etc., are the warning of Mother Nature. If we disregard her warning we shall be victims to various diseases.

Mother Nature also attempts to get rid of offending materials in the body in various ways, *e.g.*, purging, vomiting, sneezing, coughing etc. For example, when any germ or offending material gets entrance into the gastro-intestinal tract, Nature gets rid of them by purging or vomiting. An irritating material entering the respiratory tract causes sneezing and coughing, and any foreign body that may have fallen in the eye causes watering of the eyes and the foreign body is washed out of the eyes.

How beautiful it is to have the conception of the tracing of God's hand in every detail of bodily construction and function that may so constantly remind one of great spiritual lessons? Viewed by the natural eye, it all suggests the marvellous beauty of God's handiwork in His great masterpiece of creation; and when, in addition, the facilities of the laboratory, with microscopic eyes, are turned upon its wonders, its beauties, and its harmonies, these are even more wonderfully displayed, and we are led to say of this marvellous body temple, "its builder and maker is God".

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MYOPIA—ITS CAUSE

A FEW IMPORTANT HINTS

By DR. R.S. AGARWAL, L.S.M.F.,
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Delhi

BEFORE coming to the nature of cause of myopia, it is important to learn the normal function of the eye.

The act of seeing is passive. Things are seen, just as they are felt, or heard or tasted, without effort or volition on the part of the subject.

What we see through the eyes, is simply mind's interpretation of the retinal image. We see only what we think we see or what we imagine. When the imagination is perfect the sight is perfect and when the sight is perfect the memory is perfect.

Take a Snellen Test Card and hold it at a distance from your eyes at which your sight is fairly good. Look at the white centre of the large "O" and compare the whiteness of the centre of the "O" with the whiteness of the rest of the card. You may do it readily; but if not, use a screen, that is, a card with a small hole in it. With that card, cover the black part of the letter "O" and note the white centre of the letter which is exposed by the opening in the screen. Remove the screen and observe that there is change in the appearance of the white, which appears to be a whiter white, when the black part of the letter is exposed. When the black part of the letter is covered with a screen, the centre of the "O" is of the same whiteness as the rest of the card. It is, therefore, possible to demonstrate that you do not see the white centre of the "O" whiter than the rest of the card, because you are seeing something

that is not there. When you see something that is not there, you do not really see it, you only imagine it. The whiter you can imagine the centre of the "O", the better becomes the vision for the letter "O" and when the vision of the letter "O" improves, the vision of all the letters on the test card improves. The perfect imagination of the white centre of the "O" means perfect imagination of the black, because you cannot imagine the white perfectly, without imagining the black perfectly. When the mind is at perfect rest, the eye does its function normally.

Every thought of effort in the mind, of whatever sort, transmits a motor impulse to the eye; and every such impulse causes a deviation from the normal in the shape of the eyeball and lessens the sensitiveness of the centre of sight. Mental strain of any kind always produces a conscious or unconscious eye strain and if the strain takes the form of an effort to see, an error of refraction is always produced. A school boy was able to read the bottom line of the Snellen Test Card at ten feet, but when the teacher told him to mind what he was about he could not see the big "C". Unfamiliar objects produce eye strain and a consequent error of refraction, because they first produce mental strain. When the strain to see becomes constant myopia becomes constant, and goes on increasing unless an effort to see is avoided.

The principal cause of myopia is staring or making an effort to see distant objects. When the objects are regarded with an effort to see more than two parts perfectly at the same time, myopia is always produced. Most patients can demonstrate that when they read the Snellen Test Card at fifteen feet or farther, staring at one point of one letter for two seconds or longer, always lowers the vision. Contributing causes of myopia are:—

(1) Keeping the upper lids raised and blinking at long intervals.

(2) Wrong use of the eyes while reading, writing, sewing, seeing cinema, etc.

(3) Fear, anxieties, worries and physical discomforts.

(4) Imperfect imagination and distorted thoughts.

(5) Excess of sexual appetite.

(6) Constant use of the spectacles. Common sense tells us that as the sight of a myopic patient is good at the near point, the use of the spectacles will naturally increase the strain.

(7) Insufficient nourishment.

(8) Looking at the teachers and other persons who use glasses as they are supposed to be under strain, the children being great imitators, try to strain in the same way.

It is a general belief that the strain at near work—reading, etc., causes myopia, and it is why the primitive man who used his eyes mostly for distance, suffered little from myopia.

Strain at a near point causes hypermetropia while the strain at a distance causes myopia.

It can be shown (1) that a strain to see at a distance produces nearsightedness. Look at a Snellen Test Card at twenty feet and read it as well as you can. Now strain or make an effort to see it better, and note that the sight, instead of becoming better, becomes actually worse. (2) That the strain to see at a near point does not increase nearsightedness, but always lessens it. Look at a card of fine print at six inches from your eyes and read it as well as you can. Now make an effort to see it better, and note that your vision for the near point is lowered, while the ability to read the fine print at a greater distance is improved.

The reading of the fine print, when it can be done without discomfort has invariably proved to be beneficial

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and the dimmer the light in which it can be read, and the closer to the eyes it can be held, the greater the benefit. By this means severe pain in the eyes has been relieved in a few minutes, or even instantly. The reason is that fine print cannot be read in a dim light and close to the eyes unless the eyes are relaxed, whereas large print can be read in a good light and at ordinary reading distance although the eyes may be under a strain. When fine print can be read under adverse conditions the reading of ordinary print under ordinary conditions is vastly improved. In myopia it is a benefit to strain to see fine print, because myopia is always lessened when there is a strain to see near objects.

Strain of the mind means a loss of mental control, and this is why visual acuity declines as civilization advances. Under the conditions of civilized life men's minds are under a continual strain. They have more things to worry them than uncivilized man had, and they are not obliged to keep cool and collected in order that they may see and do other things upon which existence depends. If he allowed himself to get nervous, the primitive man was promptly eliminated; but civilized man survives and transmits his mental characteristics to posterity. A decline in visual acuity at a distance, however, is no more a peculiarity of civilization than is a similar decline at a near point.

Extensive investigations as to the effect of various styles of print on the eyesight of school children have been made, and detailed rules have been laid down as to the size of the print, its standing, the distance of the letters from each other, etc., to lessen the strain of near work upon the eye, leaving the strain to see distant objects unaffected and totally ignoring the mental strain. In spite of all these attempts myopia is progressing amongst the student community though the students pass most of their time in reading. This is because the students' minds remain under strain and worries under the present educational system and no education is given to relax. When they look at distant objects with strain myopia is produced.

The remedy is not to avoid either near work or distant vision, but to get rid of the mental strain which underlies the imperfect functioning of the eye, at both points; and it has been demonstrated in thousands of cases that this can always be done. The eyes are made to see with, and if when they are open they do not see, it is because they are under such a strain and have such a great error of refraction that they cannot see.

Q. If the strain to see at a distance is the cause of myopia, then why does one eye become myopic and the other remain normal or one more defective than the other?

A. Of a pair of equally good eyes one will retain perfect sight, and the other will lose it, simply because one eye looks at things without effort and the other does not. Or one makes less effort than the other.

Q. Is it not that excessive use of the eyes for near work causes strain on the lens, and consequently myopia is produced and eyeball is elongated?

A. When there is a strain on the lens, there should be a change primarily in the shape of the lens and not that of the eye ball; and if the lens changes and becomes more convex then hypermetropia should be produced and not myopia. Elongation of the axis of the eyeball is produced by the abnormal action of external muscles.

There are six muscles on the outside of the eyeball, four known as the "Recti" and two as the "obliques". The obliques form an almost complete belt around the middle of the eyeball. The obliques are the muscles of accommodation and are concerned

in the production of myopia. Their contraction elongates the eyeball. All abnormal action of these muscles is accompanied by a strain or effort to see. With the relief of this strain the action of the muscles becomes normal, and myopia disappears.

Q. If the muscles outside the eyeball control the proper functioning of the eye, then are they not tired by the constant use of the eyes like other muscles of the body, consequently producing defective sight ?

A. The use of the muscles does not necessarily produce fatigue. Some men can run for hours without becoming tired. Many birds support themselves upon one foot during sleep, the toes tightly clasping the swaying bough and the muscles remaining unfatigued by the apparent strain. Fabre tells of an insect which hung back downward for ten months from the roof of its cage, and in that position performed all the functions of life, even mating and laying its eggs.

The fact is that when the mind is at rest nothing can tire the muscles and the eyes, and when the mind is under a strain nothing can rest them. Anything that rests the mind will benefit the eyes. Almost everyone has observed that the eyes tire less quickly when reading an interesting book than when pursuing something tiresome or difficult to comprehend.

Q. Is myopia congenital, that is from birth, or hereditary ? Are bad health and bad sexual habits not the cause of myopia ?

A. Myopia is rarely congenital. It is not heriditary but is acquired. You can see many children having perfect eyesight though their parents had high myopia. You can see many other children suffering from myopia though their parents had perfect eyesight. The picture of a family group illustrates the effect of mind upon vision.

Many persons having bad health or having bad sexual habits do not suffer from myopia. There are many others who have good health and muscular body, and suffer from high myopia. These things can increase the strain if it already exists in the person or can produce a tendency to strain.

Note —The details of the treatment of Myopia by eye exercises can be studied from the book 'Mind and Vision' which costs Rs 4/- and is available from Thacker Spink & Co., Calcutta.

Industrial Skin Diseases

Industrial skin diseases are too numerous to mention individually; in fact, they may be numbered by the hundred, if not the thousand. Bakers get dermatitis, probably from handling flour; confectioners get it from sugar, gardeners get it from handling poison ivy and other plants; photographers get it from metal; French polishers get it from bichromate—there is hardly a trade in which some raw material or chemical likely to cause dermatitis does not have to be handled. At the same time it is often very difficult to say whether a skin dermatitis is just an ordinary eczema or a definite industrial dermatitis arising from the handling of irritating material.

Men who handle tar sometimes develop a form of tar carcinoma. I have been asked whether it is possible to choose for this kind of work only those men with skins likely to withstand the effect of the tar, but I do not know how this can be done, except that men with very dry or very greasy skins and those who perspire much are better not put to work handling tar or other chemical substances —S. Ernest Dore, M.A., F.R.C P., M.D.—*Medical World.*

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VITAMINS:

THEIR NECESSITY IN FORTIFYING FOODS

By FRANK W. BRITTON, D.Sc.

RECENTLY a new member of the Vitamin B complex has been isolated by a group of American chemists; it is concerned with the defensive system of the body which counters fatigue. A proposed name for the new substance is the 'vitality vitamin.' Originally, it will be remembered, vitamin B was thought to consist of only one accessory substance, but later two factors were discovered—vitamin B_1 and vitamin B_2, chemically called thiamin and riboflavin. Each had specific therapeutic properties. Finally, many more factors of the vitamin B complex were separated, one of the more recent being pantothenic acid, which is a potent growth control factor. It is quite probable that this complex vitamin consists of at least twelve separate chemical bodies each having definite specificity. Vitamin B is essential to the normal growth of the child, while the newcomer of the complex maintains virility in the older person. Water-soluble vitamins of the nature of vitamin B are found in the rice polishings removed as the outer coating of the rice kernel.

VITAMIN A

Fat: Fish-oil; Liver; Kidney; Egg-Yolk; Butter; Ghee; Whole-milk; Green Leafy Vegetable; Sprouted grain; Yellow-root Vegetables; Carrots; Sweet-potatoes; Tomatoes; Bajri.

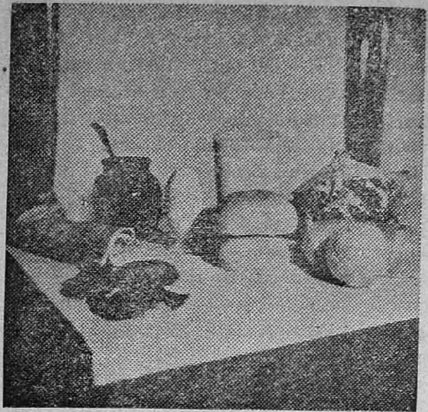
VITAMIN D

Cod-liver-oil: Egg-Yolk; Fish; Milk. Butter; Vegetables; Grain grown in Sun-light.

Some investigators believe that all digestive derangements are due to vitamin deficiency, and there is no denying the fact that this is the chief cause of gastric and intestinal disease. Until quite recently the main dietary of the people consisted of food of a decidedly devitalizing nature. No wonder that the symptoms of so many diseases manifested their presence. Hygienic living in the form of judicious physical exercise and balanced natural diet using more fresh fruit and vegetables has resulted in an improvement in health. We have almost unknowingly benefited by the inclusion of essential vitamins in our diet by use of the above foods, and their temporary deficiency at the present time on account of the difficulty in providing particular kinds of fruit may be obviated by the inclusion of regulated amounts of vitamin in the state-controlled foods.

Vitamin A, found in carrots, yolk of egg, etc., as the chief substance of carotene, must be present in food, otherwise degenerative changes take place in the epithelial tissues. particularly of the face and mouth, where pyorrhoea is likely to occur.

Little need be said of vitamin B complex, bearing in mind the foregoing remarks. Vitamin C is oxidized so readily by storage and heat that



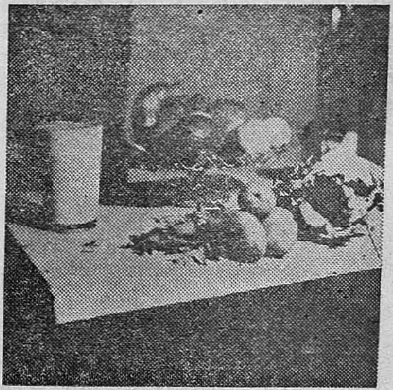
VITAMIN B

Yeast ; Tomatoes ; Leafy Vegetables ; Whole Grain Cereal; Bajri; Dhal ; Milk; Egg; Liver; Brain; Heart; Kidneys.

it should be consumed in fresh food as soon as possible. Spinach, potatoes, and fresh meat contain plentiful amounts of the vitamin. Potatoes should be baked and spinach consumed within three or four days, since the substance is destroyed within a week at normal room temperature. Pasteurized milk contains very little, and irradiated milk almost no vitamin C. Children's teeth, following deficiency of this factor, become chalky—a defect which may be treated successfully by the administration of the vitamin and calcium lactate. An interesting fact illustrating the potency of vitamin B is that the tissues of a person who has died from an infectious disease contain no sign of this vitamin, showing that until all reserves of the substance are exhausted a patient does not die. All diseases deplete the body's reserves of vitamin C. Pathogenic bacteria, especially in the mouth, are effectively destroyed by ascorbic acid—vitamin C.

Perhaps more has been written about vitamin D than any of the others. It controls the supply of calcium to the blood at the same time regulating the affinity of the blood serum for calcium in order to effect complete assimilation of the element from food. Nevertheless calcium is assisted to combine with serum by vitamin D, but apparently this factor cannot assist in its isolation from that serum at the site of replenishment, and so a second factor is needed. This is sometimes called vitamin F, and consists of the group of unsaturated fatty acids of the linoleic and clupanodonic series. They are found in butter, cod-liver oil, etc., and assist in the work of assimilation initiated by vitamin D. Over-calcification may occur in the absence of vitamin F, so that vitamin D might induce a toxic condition. Indeed, in all probability this occurs when sun-bathing is over-indulged in. Calcium accumulates in the pericellular fluids and is diffused in this manner by vitamin F, while it is drawn back within the blood-vessels and reabsorbed under the influence of vitamin D. Thus the two accessory factors are opposed but nevertheless necessary to each other's work.

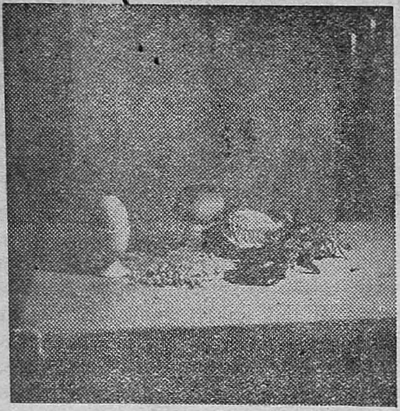
Vitamin E is a nerve-control accessory and has also been found to maintain the fertility of the generative organs: it has been used successfully in the treatment of paralysis.



VITAMIN C

Oranges ; Lemons ; Tomatoes ; Fresh Fruits ; Raw Carrots ; Green Leafy Vegetables ; Sprouted Grain ; Milk ; Curds ; Potatoes.

A source of vitamin supply, with the exception of vitamin D, has been found in grass, and steps have been taken to conserve the food-value of this important animal food. It has been estimated that there are more vitamins in 12 lb. of dried grass than in 340 lb. of fruit and vegetables. To us, of course, the idea does not sound very palatable–the thought of eating raw grass—but when it is



VITAMIN E

Whole Bread; Seeds; Vegetables; Egg Yolk; Muscle Meat;

subjected to a new quick-drying process, nearly all the vitamin content is preserved. There seems no reason why powdered grass should not be used in food, considering that for equal quantities of grass and all vegetables and fruits the first contains forty times the number of international units of vitamin A contained in the last two. Grass contains ten times the weight of vitamin B_1 than do fruit and vegetables of the same weight. It also contains the remaining factors of the B complex—11,000 units of riboflavin compared with 510 units in fruit and vegetables. Recent laboratory experiments with one of the members of the vitamin B complex (the 'vitality vitamin') have shown that hair is slightly darkened as the result of the use of this vitamin. This substance is present in grass along with the anti-scurvy factor C, which contains fourteen times as much as that in fruit and vegetables. Finally, grass is rich in vitamin E, which controls fertility. It should be observed that while grass supplies large amounts of all vitamins with the exception of D it could not be substituted for natural food, although it might be used as a valuable source in the vitaminization of much of our everyday food.

On the grounds therefore, that we are not getting the necessary quantity of vitamin-rich fruit, such as oranges, lemons, grape-fruit, bananas, etc., it behoves us to see that the deficiency is remedied by the addition of vitamins in our normal diet. It matters little whether such products are synthetic, because chemically both the natural and synthesized compounds are pure and act principally as catalysts or stimulants boosting up physiological function. —*The Prescriber.*

Oranges contain practically no starch, and therefore do not ripen further after they are picked.

* * *

New and old *potatoes* may differ in flavor, but nutritionists have not found much difference in food value.

—*Orchives of Physical Therapy.*

2-FEB 1943

Incendiary Bombs and How to Deal With Them

An *incendiary bomb* consists of a thick-walled cylindrical tube 9 inches long by 2 inches in diameter made of an alloy of magnesium with a small proportion of aluminium iron oxide. This is fired by an igniter which may be situated in the nose or in the rear end of the tube. On one end of the tube there is a 5-inch tail, fitted with vanes, to steady the bomb in flight. With the exception of the tail and igniter all the rest is incendiary material.

The bomb does not explode on impact. When it hits the roof of building or the ground the needle of the igniter is driven into a small percussion cap which ignites the priming composition inside the magnesium tube This burns for 40–50 seconds at a temperature of about 2,500° centigrade. This great heat melts and ignites the magnesium tube which burns for 10–15 minutes at a temperature of about 1,300° centigrade. It may burn for 20 minutes and will set fire to anything inflammable within a few feet.

During the first 50 seconds or so, the priming composition inside the tube burns very violently; jets of flame are shot out from vent holes and pieces of molten magnesium of the tube may be thrown as far as 50 feet away. As the tube melts and the pressure inside is reduced, this violence decreases after about a minute. Fires are started by these jets of flame, by the pieces of molten magnesium thrown outwards and the heat generated. The thermite composition (inside the tube) contains its own oxygen and cannot be extinguished by smothering it. The magnesium tube must get oxygen from the air to burn.

An incendiary bomb does not penetrate very far. It will, however, penetrate any ordinary roof (including tiles, slates, corrugated iron and wood) and start fires in the roof or in the room immediately below. If the floor of the room is made of wood the bomb may pierce it or else the molten magnesium will drip through and start fires.

The magnitude of the fire in the roof itself will depend largely on the amount of timber or other inflammable material in the place.

It is not difficult to imagine what will happen if ever bombers came over and dropped incendiary bombs on any town. If they are not dealt with within two to three minutes after falling they may start so many fires that it will be impossible to put them out.

Protection against small incendiary bombs is afforded by—

(1) covering flat roofs with ¼ inch mild steel plates;

(2) constructing roof or floors of 4 to 6 inches of reinforced concrete; or

(3) reinforcing the existing roof with a covering of sand or a layer of sand bags (laid as closely as possible).

Corrugated iron sheets are not satisfactory as they get red hot and so set on fire anything inflammable in contact with them.

If your roof is not proof against penetration by an incendiary bomb you should—

(1) protect the floor below by spreading 2 inches of sand on it or better still 2 inches of foam slag (the residue from blast furnaces) which weighs a third of the weight of an equal quantity of sand or a thickness of 2½ inches

of household ash from coal fires or 2 inches of ordinary earth, which must be free of vegetable matter, i. e., leaves, twigs of branches, etc. If bombs fall on these, they will burn out harmlessly;

(2) remove all inflammable material and rubbish from room;

(3) have handy in the room buckets or tins of water and sand or dry earth with a long-handled shovel.

they are dangerous. If water is thrown on a burning bomb the effect is not to extinguish it but to make it burn more fiercely and scatter the burning magnesium.

The best methods of dealing with incendiary bombs are (1) by applying water by a special spray nozzle. This causes the magnesium to burn up rapidly in one to two minutes instead of from 10–15 minutes. The surroundings must be kept damp and the fire prevented from spreading.

FLOATING FIRE FIGHTERS

Firemen of an English town converted this motor-trawler for use as a Fire-Float to combat river-side fires caused by German air-raiders.

It is of the utmost importance that the situation is tackled as soon as possible after the bomb starts burning, to prevent a small fire becoming a conflagration which will devastate the house, if not the whole town.

Incendiary bombs cannot be put out by the ordinary methods of extinguishing fire, *e.g.*, water, smothering with sand, earth foam or the fumes of Chemical Fire Extinguisher which cut off the supply of oxygen. In fact,

The equipment for this is the stirrup hand pump. It looks like a motor tyre pump and the hose, instead of being a few feet, is 30 feet in length to allow one to be well away from the heat and smoke. It delivers 3 gallons of water in a minute from a nozzle 1/8 inch. The nozzle serves two purposes: it can throw a jet of water 30 feet (for ordinary

fires) or a spray 15 fet (feor bombs).

Two buckets or other water-containers should be kept ready from before. About 6 gallons of water are usually required to control a bomb and extinguish a fire in a room of moderate size and without too much furniture or rubbish in it;

(2) by smothering it with dry sand or earth, provided it has fallen where you can get at it. A bucketful of sand or earth is enough to cover and control a small bomb.

The sand or earth does not extinguish the bomb but, by cutting off the supply of free air, it causes the bomb to burn less fiercely and the glare and heat are reduced.

When tackling bombs the heat may be so great it will be impossible to approach within 10 feet of the bomb, hence the necessity for a shield made of asbestos 2½ feet in diameter on a light metal frame or a blanket in four folds should be carried on the arm to give protection from the heat.

In some cases the glare and light is so powerful that dark glasses must be worn.

Remember—

Act promptly.

Prompt action may be the means of saving lives.

Prompt action will save property.

Prompt action prevents serious damage.

Prompt action will defeat the object of raid.—*Patna M.J.*

HOW TO RELAX

BY MORRIS FISHBEIN

"If we could learn how to balance rest against effort, calmness aginst strain, quiet against turmoil", says Dr. Josephine Rathbone, "we would assure ourselves of joy in living and psychophysical health for life." The psychologists believe that people who live dynamically without being too tense have four main attributes : first, rhythm in their activities with great swings in output and accomplishment, alternating with periods of repose; second, a sense of values which makes it possible to minimize effort and minimize strain , third, ability to reduce muscular tension in any part of the body consciously whenever desired; and fourth, a readiness to fall asleep at will.

While these attributes may develop spontaneously to some extent in some persons, it is also possible to cultivate them in a measure. In order to aid such cultivation, ten tricks are presented which are believed to be useful in realizing relaxation. They are:

1. Cut down on the intensity of your thinking half an hour before retiring. (Play Chinese checkers, plan an excursion for the week-end, write a letter to a friend, fill with pleasant things you have been doing.)

2. Take plenty of time to get ready for bed (next morning's clothes, leisurely bath, and so on).

3. If you like to read in bed, choose non-fiction or a "hard" book. Force your mind to grapple with cumbersome facts, bore it into unconditional surrender to sleep.

4. Transplant your mind from fears or hates to a field which has interest without excitement (a new wardrobe, possibly).

5. Make your mind hop from one idea to another. Just as the mind loses consciousness and sleep comes, thoughts become disjointed and scattered. (Start with some happy episode in childhood, for example.)

6. To quiet the body, get rid of any pressure or pain. (Lighten weight of covers, clothes.)

7. Tepid bath without a rubdown. (Get into bed a little damp and chilly. As the body becomes warmed it becomes more and more comfortable. If during the night one becomes sleepless, throw back covers until body becomes uncomfortably chilly

Then when the covers are pulled up again, the body once more sinks into coziness.)

8. Imitate the slow, deep rhythmical breathing of sleep. (Helps regulate the circulation and may ease the mind and emotions.)

9. Relax the muscles completely.

10. Get rested before trying to sleep. (Get into bed an hour or more before your regular time for retiring. Do so night after night to build up a reserve of rest and fall asleep without the old struggle.)

The balance between what can be accomplished by education and practice and what is innate in producing relaxation and longevity is a delicate one. Physicians have long known that people with a low blood pressure, a low basal metabolic rate, a low pulse rate and a low intake of food—if all of these are not too low—tend to live longer than those in whom these physical factors are at extremely high levels. Perhaps equally important is a low threshold for the sense of humour—a mental attitude which does not take life too seriously. —*Hygeia*.

Some Aspects of Public Health in India

By A. C. UKIL, M.B. (Cal.), M.S.P.E. (Paris), F.S.M.F.B., F.N.I.

In considering the present public health position in India, one must remember that India is larger than Europe *minus* Russia; that she has 9 times the population of England and Wales and that her population has increased by over 250 millions within the last 90 years; that 90% of her population is rural in contrast to 20% in England, 47% in Canada and 50% in Japan; that 71% of the population are engaged in agriculture and that only 1% are employed in industries; that over 90% of the population is illiterate and that some of the *social* and *religious* customs are not conducive to good health. The urban population of British India amounts to 25 millions, out of a total of 350 millions.

The average per capita annual income in British India is £4-7*s*. or 1/15th of that in England and 1/18th of that in U. S. A. (Findlay Shirras.) The monthly income per head, therefore, comes to about Rs. 5 but the rural population earn less—Rs. 39 per capita per annum or Rs. 3-4 per month. From this, the average rural inhabitant has to provide himself with food, clothing and housing, pay land revenue and very often interest on his loans for buying live-stock, seed, manure and other necessities. The quantity of arable land per person is too small and the quality of cattle too poor to provide him with the minimum requirements of a healthy life, while he cannot afford to improve the gradually impoverished soil. Underfeeding and unbalanced food necessarily reacts on the physique resulting in preventible sickness and lack of stamina. Dr. Aykroyd estimates that a minimum expenditure of Rs. 5 to Rs. 6 per capita per month is needed to provide an adult with minimum balanced nourishment. The percentage of taxation to national income in India is 10·1, in contrast to 8·7 in Switzerland, 9·5 in Canada, 13 3 in Australia and 25·6 in the United Kingdom.

The inhabitants of British India are stated to enjoy the briefest span of life, *viz.*, 23 years, in contrast to Sweden's 62 years, Britain's 60 years, Germany's 58 years, Italy's 45 years and Japan's 45 years. The crude birth-rate per 1,000 in India is 34.5 (1937). The crude mortality rate per thousand in British India (1937) is

22·4, as compared with 12·4 in England and Wales, 17.5 in Japan, 18·8 in Netherlands East Indies and 18·9 in Palestine. Of the 6·1 million annual deaths in British India (1937), fevers (in which are included malaria, enteric, kala-azar, tuberculosis, etc.) account for 58%, dysentery, diarrhœa and cholera together for 7·3%, respiratory diseases for 8%, infantile mortality for 24·8%, smallpox for 1% and plague for 0·5%. Infectious diseases like cholera, plague and smallpox, which have been almost entirely banished from the Western countries and Japan, still take an annual toll of 99,000, 28,000 and 55,000 lives respectively. The rate of decline in mortality from the diseases and from the vaguely defined category of fevers has been extremely slow, while in some cases, *e.g.*, respiratory diseases, there has been a gradual increase. Child mortality rates for different age periods are from 3-5 times higher in India than in England. For the whole period of 0-10 years, the death rate among children in India is 4 times as high as that in England. Maternal mortality due to child-bearing exacts a toll of 4-5 times that in Western countries, 20% of the deaths being due to anæmia which accounts for a negligible fraction of deaths (0·05%). in England 80-90% of these deaths are, therefore, preventible. It is estimated that about 30% or 3 million women are permanently or temporarily disabled in India as a result of pregnancy or labour every year. There are 150,000 lepers in India and over 2 million persons (40-70% of the population in some areas) are estimated to be infected with hookworm.

If the English death rate obtained in India to-day, there would have been 2,766,049 fewer deaths (males—58, females—60), and the expectation of life would be 60, instead of the present 23 years. The sickness rate in England, entailing incapacity for work, is 2% of the population. Even if we take the rate as 4% in India, the number of people constantly sick would be somewhere near 11 millions, chiefly through lack of medical protection. No work has yet been done in India to indicate the sickness rate in the general population. The sickness rate among the British troops in India is, however, 12 times, while that among the Indian troops is 10 times that of the death rate. If this basis of calculation is taken, the amount of sickness in the general population and the consequent economic loss due to loss of wages would be enormous.

Of the 6,500 curative institutions, 3,000 hospitals with 95,000 beds and 3,500 out-patient dispensaries are attending to 35 million new and old patients annually. 925 of these institutions are voluntary, the rest managed or aided by the State. Of 6,407 medical officers who are manning these institutions, 220 are I.M.S. Officers occupying the senior posts, involving an annual expenditure in pay and allowances, excluding pension charges, of about Rs. 60 lakhs; 41 are non-I.M.S. Europeans, 740 are missionaries, 105 are military assistant surgeons, 1,054 are Civil assistant surgeons and the rest licentiates or sub-assistant surgeons. The number of doctors employed in public health duties is 1,206 or 1/5th of that employed on curative services, of which only 217 possess public health qualifications. A little over 50% of the 247 districts employ a Medical Officer of Health, the rest still remain unprovided for. This is also very unevenly distributed. Over 50% of the total budget (curative and preventive medicine) is consumed by the medical staff. The total number of registered doctors is 42,000. The number of students who qualified in 1936-37 were 965, of whom 100 were women. About 12,000 medical students are receiving instructions in the year. There are 3,697 nurses in India, of whom only 211 are employed in rural areas.

The average area served by each hospital or dispensary varies from 24 sq. miles (Delhi) to 1327 sq. miles (Baluchistan) and the average population served by each of these institutions varies from 11,305 in Baluchistan to 81,087 in U. P. The per capita expenditure on medical relief varies from one anna in U. P. to Re. 1-2-5 in Delhi. The expenditure in urban areas is nearly three times that in rural areas.

No planning for the health uplift of a community is possible without a consideration of the topography, soil study and the raising of food, weather conditions, population (men and cattle), water-supply, drainage, industry, education and economic and cultural backgrounds of the community. A survey of these factors is necessary before any planning is undertaken. It will be found that, in most spheres, the deviation from physiological health is related to problems connected with housing, clothing, physical cleanliness, drinking-water supplies, disposal of sewage, household refuse and manure. and the contamination and poverty of foodstuffs. The backwardness of India in the proper evolution of public health must be accounted for either by the progress of science not being applied to the prevention of disease as it has been done in advanced countries or to a wrong application of the same. Before we proceed to suggest recommendations, it is necessary to ascertain the causes of the lag in India and how they can be remedied.

As has been pointed out before, in England there has been a persistent endeavour to apply the knowledge gained from the discoveries of the medical sciences, in the course of the past 100 years, to the social, educational, economic and hygienic well-being of her citizens. The advent of the British rule in India coincided with the differentiation of science and its resultant industrialization in Europe. Instead of a continuous drive towards medical protection, health, education and the provision of environmental services as in England, the administration in India showed a *laissez-faire* and vacillating policy. The medical and sanitary administration was bossed over by a Civil Service whose chief concern was to govern and to maintain law and order, without any perspective towards a co-ordinated development of the social services, such as education, agriculture, co-operation, public health, etc. Most of the personnel of these services appointed to look after the medical, public health and social services had no specialized training in the particular branches of the craft and hence there was little desire in them to utilize the scientific knowledge and discoveries of the times towards the betterment of the health and physical well-being of the population.

The medical personnel responsible for guiding the policy or for administration came and still comes from a highly paid service which has been primarily meant for the Army. Here also special technical knowledge and training were not considered to be the criteria for appointment in a particular post carrying a particular object, with the result that a man who began, for example, as a teacher of Anatomy was considered competent to be successively appointed a Divisional Surgeon, a Port Health Officer, a Radiologist, a Teacher of Medicine and so on. This principle is still being followed in the Imperial and Provincial Medical Services to the great detriment of the working machinery. The continuance of this system even in the 20th century when it is realized that medical progress cannot be possible without special training and competency accounts for a large measure of backwardness in medical and public health planning in India. This is the reason why Research and Medical and Public Health education 83 years after the establishment of the

Universities in India are still hopelessly backward, as compared with other progressive countries. It is not my purpose here to underrate the excellent services rendered by the research workers and administrators of the previous generation who introduced Western medical science into this country and developed it, but there is no technical justification for its continuance in the present century, when there is a sufficient number of highly trained technical workers available in the country who can replace the superior services entirely without any loss of efficiency and run the organization at much less cost. In fact, the whole system of administration needs to be remodelled to suit the new conditions and requirements.

It has been pointed that there was hardly any public health policy until the reforms of 1919 and 1935. These reforms have no doubt stimulated a desire for progress but it is being hampered by the lack of a planned programme and policy, a hopelessly inadequate amount being earmarked for medical relief and social services by the continuance of a top-heavy administration without efficiently trained technical personnel and by the poverty of ideas in the administrators themselves. There is still considerable lack of co-ordination among the various interdependent branches of administration which are concerned with a forward health policy and social progress of the population. Administrative procedures are often applied which are not based upon sound economic considerations and financial budgeting within the economic means of the population. The result has been that although some fragmentary public health measures have been undertaken in urban areas, the rural population has been hopelessly neglected, with the result that the villager in India to-day is no more benefited by modern science than his forefathers before the advent of the British rule.

(To be continued)

Topics from Medical and Health Periodicals

"Between breakfast and dinner, and dinner and tea,
A boy may be hungry as hungry can be;
But if he's impatient and right away
His appetite's gone for the rest of the day;
Whereas, by just waiting, this fact I'll assert,
His bread and potatoes will taste like dessert."

—LOUIS W. NORMINGTION.—*G. H. (Eng)*

Shipwreck Suits

A "SHIPWRECK SUIT" is the latest British invention for saving seamen's lives. It is made of a bright yellow rubberised material in two parts—combined trousers and overshoes and a hood and coat. The coat sleeves are long enough to cover the hands, and slits in the trouser legs allow the limbs to be taken out easily for massage. The hood is used as a carrier for the complete outfit, which weighs 3 lb 6 oz. It is to be worn in lifeboats or on rafts and its bright yellow colour shows up the shipwrecked to rescue ships and aircraft.—*Safety News.*

Climbing Ladders

MOST ladder accidents are caused by the ladder falling or the climber losing his balance and falling. Here are some important precautions:

1. Make sure the ladder is not defective.
2. Use a ladder with safety feet suitable for the floor or ground it stands on.
3. If the floor is extra slippery, tie the ladder at the base or have some one hold it.
4. If the ladder is placed before a doorway, lock the door or have some one guard it. Protect the ladder base from traffic if necessary.
5. When using a stepladder, make sure it is fully extended before you climb.
6. If your shoes are muddy or otherwise slippery, clean them before you climb.
7. Be sure the ladder is placed at a safe angle against the wall or other solid backing. An angle of about 75 degrees with the horizontal is recommended.
8. Always face the ladder and hold on with both hands, whether climbing up or down.
9. Carry tools in suitable pockets; or have tools and all other objects hoisted with rope and bucket.—*National Safety Council, U.S.A.*

Vitamin B_1 (Aneurin, Thiamin)

THIS is known as the antineuritic factor. Severe deficiency over a long period eventually produces beri-beri. An adult normally requires 550 I. U. of this vitamin daily. In many modern diets the figure is much below this. In pregnancy larger amounts, up to 1000 I. U., become necessary. The vitamin B_1 content of foods is greatest in wheat germ, dried yeast, and oatmeal. Datta states that vitamin B_1 is the most well-defined constituent of the vitamin-B complex. Aneurin is the name favoured in European countries, whereas the Americans seem to prefer that of Thiamin. The cardinal symptoms of vitamin B_1 deficiency are degeneration of the nervous system, cardiac enlargement and dysfunction, oedema, gastro-intestinal disturbance, muscular atrophy, and anorexia. There is hypochlorhydria associated with lack of tone in the intestinal muscles. Anorexia, loss of appetite, is one of the first observable and most outstanding symptoms of vitamin B_1 deficiency. Cardiac enlargement is the characteristic of human beri-beri. This vitamin is destroyed by heating to a high temperature. It is extremely soluble in water, and so a considerable amount of it may be lost if the water in which foods are cooked is thrown away. The chief natural sources of vitamia B_1 are milk, potatoes, bread, yolk of egg, peas, nuts, liver. Polished rice, white wheaten flour, white bread, and pearl barley contain only traces of this vitamin, which is not stored to any large extent in the body. It is known that this vitamin plays a direct part in at least one phase of carbohydrate metabolism.—*J. Drummund, The Prescriber, June, '42.*

■

Vegetables

CHILDREN as a rule do not like vegetables, though most of them will eagerly eat them raw. If we explore the reasons for this dislike, which Mr. le Gros Clark quite rightly insists that we should, we shall find they are of two kinds—one physical, because the vegetables as presented are not suitable diet for the child to whom they are presented; the other a rebellion by the child against being forced to eat what he does not like. We believe we shall find that the reluctance of older children to eat cabbage, and incidentally, the solution of all food faddiness, to be due to the child being made to eat what at one time was not suitable for him physiologically. The Americans have shown that the most frequent cause of a child refusing milk, is that at some time he had been made to drink it when his mouth was foul from disease. We may find that elder children reject cabbage because they had been made to eat it when they had not the teeth with which to masticate it. A young child has the apparatus for nibbling raw carrot, he has not got that necessary for masticating cooked cabbage.

It is not easy to find out what children really like unless they are allowed to help themselves and even then there are many disturbing factors to lead us astray. But assuming that if sufficient range is available, and nothing has had a conditional reflex tacked on to it, the child will eat according toi ts liking, we must recognise that that represents what the child needs. It is quite certain that children in their first dentition prefer their carbohydrate in the form of sugar and not of starches, and their protein from animal flesh, preferably tough and gristly. This can be found by observation, but it could be deduced from physiology. So can the dislike of children of cooked cabbage as it is generally served to them. The apparently strange fact found by Mr. le Gros Clark, that girls refuse cabbage much more frequently than boys, is a true sexual distinction, not physical but psychological. We shall leave it at that.—*Medical Officer.*

■

Rickets and Overcrowding

THE author has tried to evaluate the factors which contribute to the incidence of rickets in the various regions of Italy, taking into consideration the overcrowding of homes as an index of poor hygienic and social conditions. He considers as overcrowded those homes in which there are more than 2 persons per room. From his data he concludes that there is a parallelism between the amount of overcrowding and the incidence of rickets in southern Italy In the other parts of Italy the incidence of rickets is more influenced by climatic conditions (cloudiness).—B. VEZZOSO, Pediatria 48: 170 (March, 1940.)—Martoccio, Utica, N. Y.—*American Jour. of Diseases of Children.*

■

The Best Part of Us

IF we lose an arm or leg we may still be able to earn a living and be a comfort to our families. But if we injure our brains we are little comfort or help to ourselves or to our families. Our brains act as the General Superintendent; when they are injured the other parts of our bodies fail to work because they have no boss.

The brain is made of millions of cells: These cells are formed in groups called nerve centers. From nerve cells little white threads called nerve fibres go to every part of our bodies By means of these nerve fibres the brain tells every muscle just how to move. Our bodies would not move more than a tree does if it were not for our brain and nerves. There are nerve centers in one part of our brain that keeps the muscles of the lungs and heart moving without our thinking about them, so our health and lives as well as our efficiency depends upon the condition of the cells of our brains and nerves.

There are nerve centers in the brain that are used in thinking. These centers help us decide what is right and what is wrong. If these centers work well we have good judgment and self-control.

All the cells and nerve fibers are covered with a fat-like coating to protect them, like the insulation of an electric wire. The poison, alcohol, which is in beer, wine and whisky and all such drinks, goes first to the brain cells (because alcohol likes the fat-like covering of these cells), and injures them. When these cells are injured, the brain fails to be as

careful a superintendent, and the nerves fail to control the muscles as well as before. If the nerve centers that we use in deciding right from wrong are injured we fail to understand things and a person may think others are not treating him right. Many quarrels come from this cause. It may also make people dishonest.

As the brain is The Best Part of Us, we should take good care of it and never drink anything that will injure it.

Are you as careful of your Brains as you are of your Eyes and Hands?

■

The Treatment of Whooping Cough

GIOLA stated that the inhabitants of Lombardy and the hills of Milan put a child with whooping cough on the handle bars of a bicycle and run it as fast as they can against the wind. This aeration shortens the course of the disease. Challamel, in 1911, used the rapid aeration by means of rides in an automobile, with good results

According to Dr. Correa's technique, the child was taken up in an airplane to an altitude of 1,200 to 1,300 metres; the cabin was opened in some cases and closed in others. The number of treatments was two or three, and they were spaced two to six days apart.

The results were wonderful, the author states. After but one ride the whooping was attenuated, and after two or three rides it disappeared completely, a bronchial cough only remaining in some. Vomiting ceased, the appetite came back and the general condition of the child improved rapidly after the whooping stopped.

Comparing this treatment with the current procedures, such as the use of vaccines and antispasmodics, there is evidently marked supremacy.—B. Delgado Correa. An. Soc. puericult., Buenos Aires 7: 1 (Jan.-March, 1941.)—Giffen, Toledo, Ohio.—*American Jour. of Diseases of Children.*

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The Importance of the Factor of Illegitimacy in Infantile Mortality

THE author emphasizes the seriousness of the problem of the birth-rate of illegitimate children in Uruguay, and in Montevideo, the capital city; for more than thirty years this rate has been increasing slowly but progressively, attaining 27 per cent for the country in 1938 and 25.3 per cent for Montevideo in 1939. The Children's Code provides for investigation of the paternity of the child and establishes the obligation for the father to supply money for board, but these regulations are as yet little known.

The increase of illegitimacy puts in danger the lives of this category of children and thus annuls in great part the efforts which might have brought about a decrease in infant death rate, which in Montevideo in 1939 was 81 per thousand children under 1 year of age. In 1938 the mortality rate among illegitimate children under 1 year of age was three and three-tenths times greater than that among the legitimate ones.

Finally the author proposes adoption of the following measures. (1) to give prenatal assistance to unmarried mothers; (2) to inform the agencies whose duty is to supervise children during first childhood about all illegitimate births; (3) to make known the articles of the Children's Code referring to the decisions of the investigation of paternity as well as the obligation of the father to pay for the boarding of the child; (4) to use great celerity in the report of the judgments of paternity and board pensions; (5) to advance (from the State) the boarding pension or a part of it to the mother who has initiated a law suit of paternity, as long as the judgment has not been pronounced or as long as the father is not able to pay it; (6) to establish homes for mothers so that they may be able to feed their babies, residence there being obligatory for six months, except in special cases; only exceptionally would children under that age be received in the day nurseries, (7) to control completely the home placement of children under the guardianship of the State.—Julo A Bauza, Bol. Inst. internac. am. de protect. a la infancia 14.395 (Jan.) 1941.—From the Author's Summary.—*American Jl. of Dis. of Children, July, '42.*

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"VIOLENT exercise after forty," says *Dr. M.O. Rouse* of Dallas, "is especially harmful if you do it with a knife and fork!" —*Texas, July '42*

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THE elderly tuberculous are more dangerous to their grandchildren than to their children.—A. Morland, M D., Tubercle, Apr. 1941.

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IF the baby does not digest its milk, it should be boiled.—*Woman's Page.*

In Lighter Vein....

Marriage: Some Points of View

Marriage is not a word; it is a sentence.

Bigamy means one wife too many; monogamy means the same.

We trudge along the road of Life, gazing at the star of Love, without being aware that the manhole of Marriage is open.

Marriage is an insane undertaking to feed and clothe another man's daughter.

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A LITTLE colored boy going through a cemetery read this inscription on a tombstone: "Not dead, just sleeping."

Scratching his head, and pondering, he finally said, "He sure ain't foolin' nobody but hisself."—*Doctor, Jan. 42*

Mutual Co-operation

YOUR neighbours' fire or explosive dangers, water supplies, access to and exit from telephones, roofs, protection for personnel and fire protection, etc., affect you, and similarly your assets and liabilities affect them. By mutual co-operation assets can be shared and liabilities reduced to the advantage of the neighbourhood.

Commercial, industrial and educational organizations having their own A.R.P schemes should co-operate closely with the Air Raid Warden or Wardens of the official A.R.P organization and with the owners of contiguous property in regard to all A.R.P. Services, such co-operation will be of mutual benefit in case of attack. The building or buildings in a unit is part of a town's A.R.P. organisation and the officer in charge of A.R.P. is equivalent to the building air raid warden and as such should attend to all meetings of his group or Division and co-operate along with his trained personnel in all schemes and exercises of the Division so that in a raid the services of this "organization" will give efficient assistance to the neighbourhood in case of necessity and *vice versa*, namely, the neighbouring organization will give all the help to this "organization" if additional help is needed to deal with the effects of a bombardment.

Fire Dangers

THE proximity of special fire or explosive hazards in the near neighbourhood warrants careful consideration at all times—and especially in war time.

Each occupancy or use has its special risks which requires protection and skilled continuous attention to maintain this protection.

An ordinary building or compound without special risks can, because of inefficient house keeping, maintenance, repair and the like, constitute a risk to the neighbourhood.

It is, therefore, obvious that a high degree of freedom from fire risk should be insisted upon from all property.

Water

WATER being the chief means of fire fighting, the position of hydrants and unpiped water is of the greatest importance to the security of the neighbourhood.

The line of the run of piped water should be marked on a plan of the neighbourhood and consideration given to the insertion of additional hydrants for fire purposes.

Unfortunately the water in the piped system is ordinarily not of sufficient pressure to allow of its direct use. Where water is stored in a tank at a height, this disadvantage is overcome.

Fire Fighting Appliances

FIRE Fighting appliances are only of great value in meeting fire if properly maintained and then only if sufficient number of trained men are available on duty to meet the call when it comes.

First Aid appliances are generally provided. Each type of extinguisher has its own specific use; these must be properly maintained and located in convenient situations and used by trained personnel, within a few minutes of the fire starting in order to prevent a serious fire.

Major fire fighting apparatus is of great value provided the stand pipes and couplings are standard in order to allow of water being taken from the piped system whenever it is necessary.

A fire alarm in the neighbourhood is important.

Correspondence

To

The Editor "HEALTH" Madras.

Sir,—Anent the article entitled "How much sleep?" in the January '43 issue of your journal, the following might be of some interest to your readers.

Most people in our province would have heard of the late Dewan Bahadur L. D. Swamikannu Pillai, I.S.O., who was an illustrious son of this land. His enormous intellectual powers are well known to his friends and his modes of sleep are of interest. He had the rare capacity to take winks of sound sleep even in the midst of heavy work, including attendance at meetings wherein he was taking an active part. He used to tell us that such very small intervals of sleep sometimes hardly two to three minutes gave him the needed rest. Even during nights, when most of us give ourselves entirely to sleep he kept a lamp always burning very near his bed and with an open book (often of Mathematics) into which he would plunge for brief periods during the course of his sleeping hours. That such modes of sleep were adequate for his mighty and unique intellect is evident from the amount of work he was able to get through during his life-time and this included astronomy, mathematics, administrative work and teaching his children in which he took a special delight.

In the tropical island of Java where I had gone on two occasions the whole country takes an after-lunch nap and the researchers appeared to me to be the better for it. Government offices made up for afternoon time thus lost by taking their work late into the evening even after sun-down.

Coimbatore,
4-1-'43.

T. S. VENKATRAMAN.